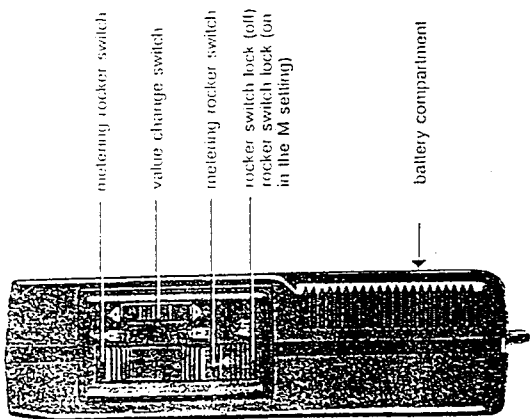


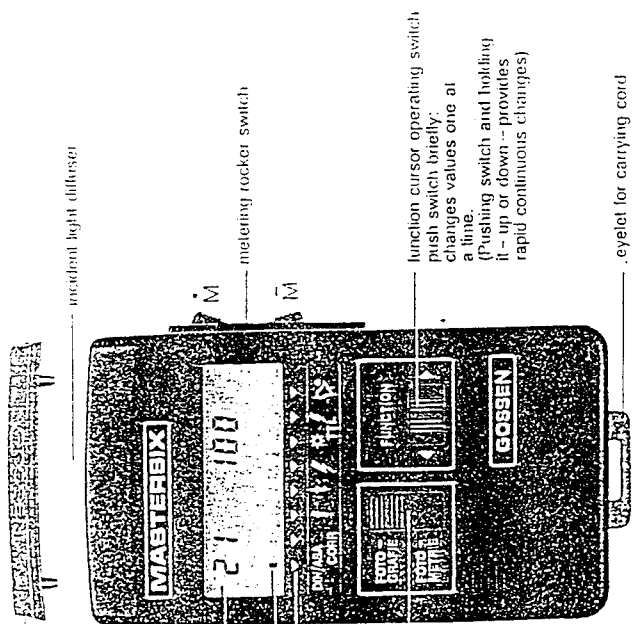
Co-ax socket for flash lead
button for firing flash from the meter



metering rocker switch
value change switch
metering rocker switch
rocker switch lock (off)
rocker switch lock (on in the M setting)
battery compartment

The MASTERBIX automatically switches off within 2 minutes therefore there is no "off switch".

The MASTERBIX is switched off, when after display of the actual measured value DIN/ASA display appears again. This display does not reduce battery life.



protective cover for accessory outlets
incident light diffuser
readout display (LCD)
function cursor (or readout of contrast in half stops)
functions
mode selector switch
metering rocker switch
function cursor operating switch push switch briefly, changes values one at a time. (Pushing switch and holding it - up or down - provides rapid continuous changes)
eyelief for carrying cord

Please unfold for List of Contents Part 1 "Basic Meter"

Part 2 "Attachments" is an integral part of these operating instructions. For convenience, this has been printed as a separate booklet.

List of Contents Part 2 "Attachments"

- TELE Page 54
- PROFI-spot Page 58
- PROFI-color Page 62
- REPRO Page 74
- PROFI-flex Page 77
- PROFI-lux Page 82
- PROFI-select TTL Page 86
- PROFI-micro Page 94
- LAB Page 98

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- The meter and its functions 5
- Battery 5
- Automatic check of circuits 5
- Measuring methods: incident light and reflected light 6
- Measuring range extension stops by 1.5 8
- Reminder symbol -- correction factors 8
- Warning symbols for limits of measuring range 9
- Pulsing of the display 10
- Acoustic signal (bell) 10
- Storing readings in meter memory 10
- Instantaneous readout of measured values 10
- Photographic functions -- "FOTOGRAFIE" mode 12
- Setting film speeds (DIN/ASA) 12
- Programming correction factors (COFR) 13
- Measuring with preselected aperture or shutter speed (f or t) 15
- Measuring contrast ranges 18
- Evenness of illumination 19
- Averaging readings automatically 19
- Flash measurement 20
- Multiple flash computation 24
- TTL setting 25
- Timer setting 25

Photometric functions -- "FOTOMETRIE" mode

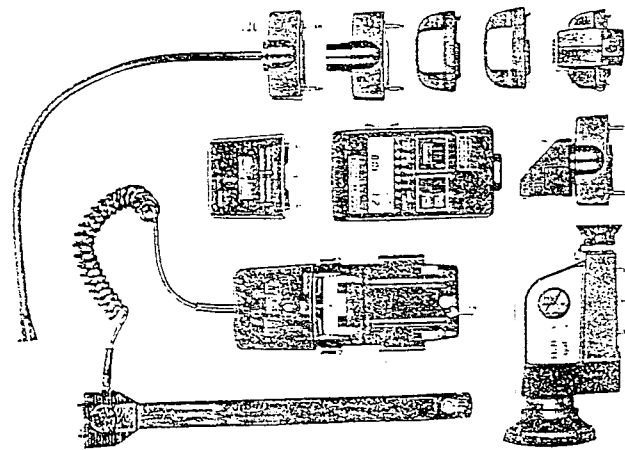
- Density Measurement 27
- "COLOR" setting 28
- Lx, fc, cd/m² settings 28
- Lxs, fcs settings 29
- Obtaining exposure values (LW/EV) 30
- Technical specifications 31
- Spectral sensitivity 31
- The MASTERBIX-system 31
- Reflected light measurement 32
- Incident light measurement 34
- Narrow angles of measurement 34
- Zone system 35
- Circles of measurement 36

Useful Hints -- Photometric values

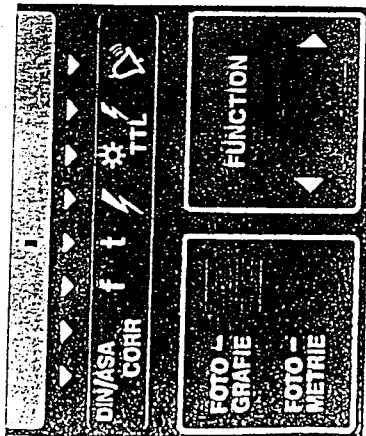
- Cine speeds 38
- Shutter priority 38
- Aperture priority 38
- Averaging readings 38
- Preprogrammable exposure corrections 39
- Contrast and optimal exposure 40
- Light metering enhances creativity 42
- Night pictures 43
- Reciprocity failure 43
- Snow 43

Explanation of measured quantities

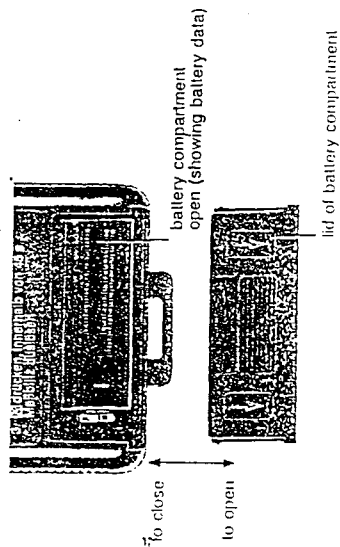
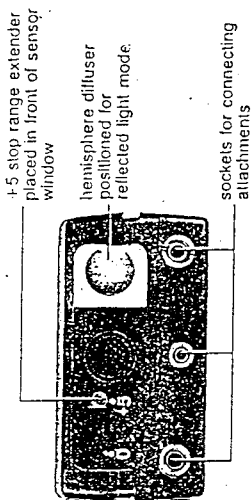
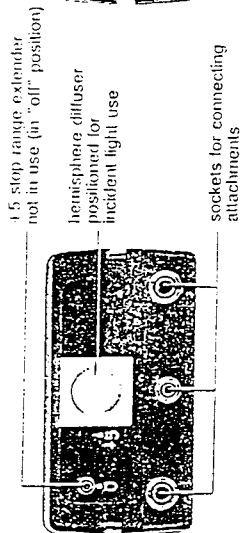
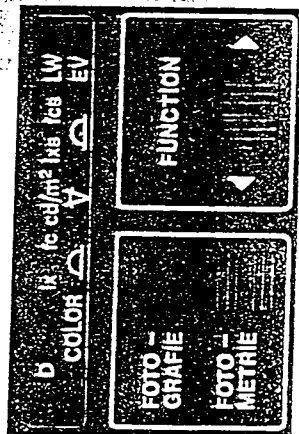
- Density 44
- Colour temperature 44
- Light intensity 45
- Luminance 45
- Quantity of light 45



meter set to photographic mode and chosen shutter speed



meter set to photometric mode and functions D (density) and LW/EV

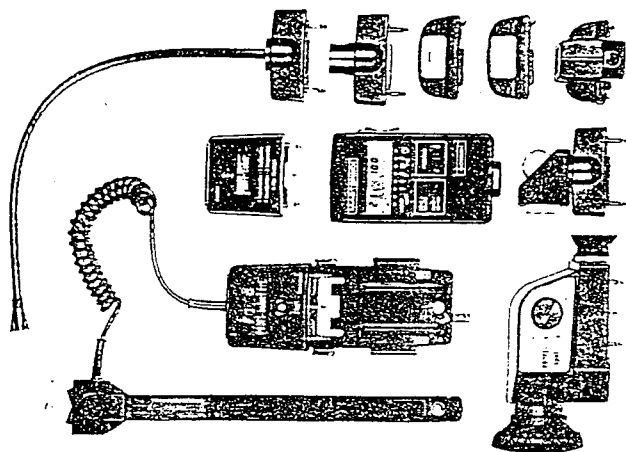


Please unfold for List of Contents Part 1 "Basic Meter"

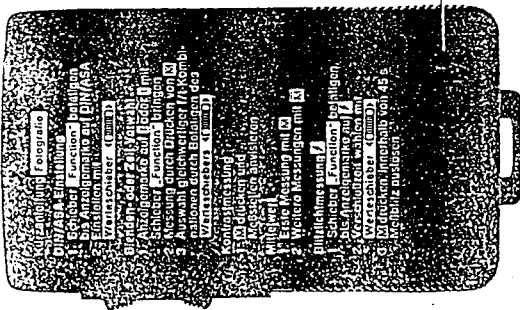
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List of Contents Part 2 "Attachments"

- TELE Page 54
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Hear with instructions



Basic operation instructions on the back of the meter.

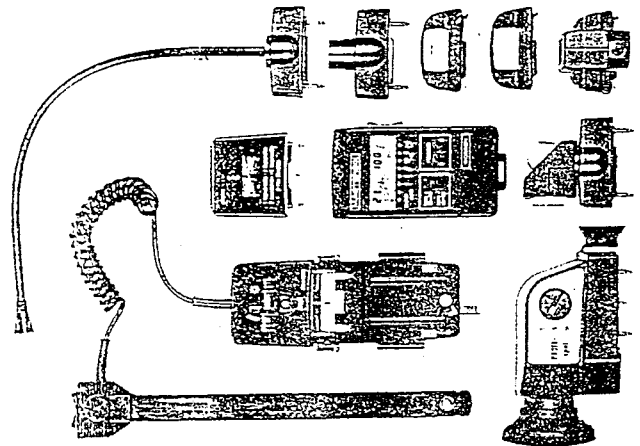
For even greater convenience abbreviated operating instructions and a Zone Scale on stick-on labels are included (page 24/25).

Pull off covering foil and stick to your MASTERSEX meter

battery compartment

The MASTERSEX system comprises the basic exposure meter and nine optional attachments.

- TELE reduces the measuring angle to 15° or 7.5° for selective measurements, spot metering, at 10°, 5° or 1°.
- PROFI-color for measuring colour temperature and indication of correction filters.
- REPRO provides exposure information for copying.
- PROFI-flex especially suitable for macrophotography, for ground glass measurements of cameras and hard-to-reach areas.
- PROFI-lux facilitates professional incident light readings for measuring at the film plane of view cameras.
- PROFI-micro assures convenient and precise measurement in micrography.
- LAB determines exposure data in darkroom printing and enlarging.



The MASTERSEX is a universal light measuring instrument made by GOSSEN which will measure and also calculate for you. The MASTERSEX reads photographic and photometric values, it calculates, stores in a memory and recalls values from there. Therefore it enhances the creative capabilities of each photographer especially when taking photographs of unusual scenes or under exceptional lighting conditions.

The MASTERSEX combines all advantages of modern microprocessor technology and the know-how GOSSEN has acquired from 50 years of manufacturing light meters. The microprocessor interlinks various light metering processes for supplying useful photographic or photometric measuring information.

There are 9 optional accessories which expand the capabilities of the MASTERSEX still further.

Here is an outline of some of the main features of the MASTERSEX and its attachments:

Full range of photographic and photometric readouts (in two function groups) – microprocessor controlled and monitored.

Reads flash as well as continuous light.

LCD digital readout in tenths of a stop. Analogue indication of tendencies in half stops.

Direct analogue readout of the contrast range ± 4 stops.

Built-in 5 stop range extender, e.g. for very powerful flashes.

Full range of 9 optional attachments available, automatic measured value adaptation. Programming for direct readout.

Programmable exposure corrections. Integrated timer.

Two silicon blue cells, one for continuous light and one for flash.

Automatic averaging of measurements from separate readings (up to 15).

Converts photometric readouts into aperture and shutter speed combinations. Measuring in exposure values (EV).

Provides choice of aperture or shutter priority.

Extra features and information when used as a flash meter.

Reminder for "under" or "over" range. Automatic battery check.

In-built memory stores measurement values.

Automatic cut-off.

Battery

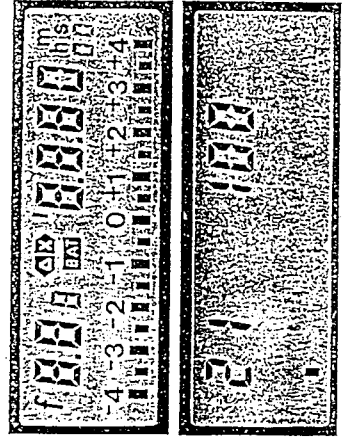
Your MASTERSEX is supplied with a 9 V alkaline battery. A suitable rechargeable 9 V battery may be used. The minimum life duration of such a battery is sufficient for about 2000 measurements. When the warning symbol "BAT" comes on in the display another 50 measurements (approx.) may be made.

Changing the battery is easy: Slide off the battery compartment lid, remove exhausted battery, insert a fresh one into the compartment as indicated. Close the compartment lid.

Automatic circuit check

Immediately after battery insertion the microprocessor carries out a circuit check and all LCD indicators in the meter will go on at once confirming the meter's operational status. After the test this display will be replaced by 21 DIN/100 ASA the meter's preset film speed setting. (For technical data see page 30).

Changing the battery will cancel all values measured or stored in the meter.



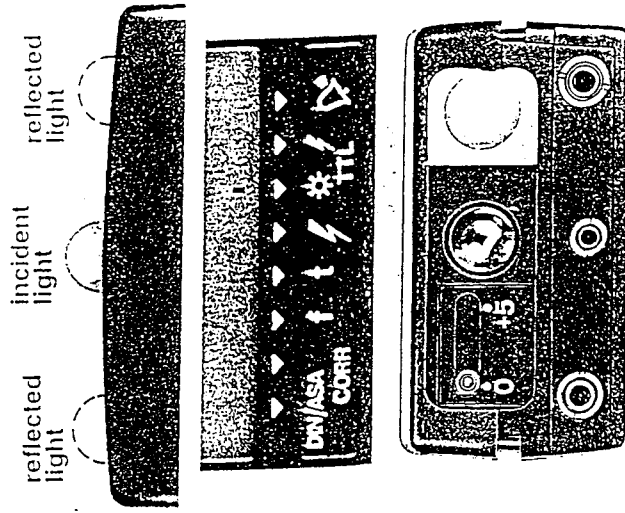
Measuring Methods

Incident light and reflected light:

In the "FOTOGRAFIE" mode (photographic) the meter will measure either incident or reflected light for "f", "t" or "f" functions.

TTL measurements direct in the film plane with continuous light and flash are possible only when the PROFi-select TTL attachment is coupled to the meter. (For more information see instructions part 2 "Attachments").

Position for the diffuser when reflected light readings are being taken (point the meter from the camera position towards the subject).



Extending the sensitivity range by +5 stops

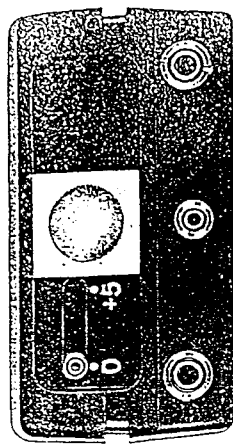
If, when measuring flash, you find that you are outside the meter's range (no flashes), slide the extender to +5 position and take another reading. The factor is automatically programmed into the meter and so the readout will now be correct.

Make certain that you slide the 5 stop extender into the +5 or 0 position completely, dependent upon your needs. Care should be taken that the extender is in the "0" position when not needed.

Reminder symbol — correction factors

In the "FOTOGRAFIE" mode, once an exposure correction factor has been set into the meter, the exposure correction symbol will appear on the display. This will serve as a constant reminder that an exposure correction is in the meter's memory and that the reading has been adjusted for that correction factor. (See page 13).

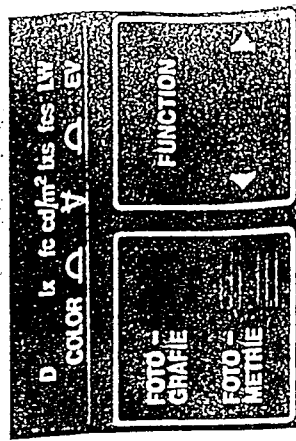
Position of the hemisphere for incident light readings. (Point the meter from the subject towards the camera position).



In the "FOTOMETRIE" mode (photometric) cd/m^2 will require metering without hemisphere diffuser, i. e. in the reflected light mode. The functions lx, fc, lxS and fcs require the diffuser to be placed in front of the cell = incident light mode.

Density measurements (function D) and LW/EV can be made both in the reflected and incident light modes.

For measuring the colour temperature and determining filters (function "COLOR") the PROFi-color attachment must be coupled to the meter. Readings obtained without the COLOR attachment are not valid. (For more information see part 2 of the "Attachments" instructions).



Warnings of the limits of the measuring range

"Over" Range

In the "FOTOGRAFIE" mode the readout signals that the values measured are greater than the meter can read (for technical data see page 30).

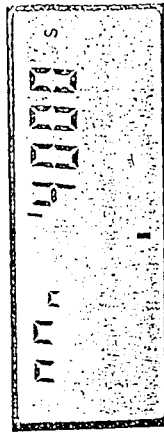
Push the value change switch down to bring the settings back to within the performance range of the meter.

"Under" Range

The readout signals that the values are below the indicating range of the meter. So move value change switch upwards.

Pulsing of the display

In the "FOTOGRAFIE" mode this signal warns you that the readout must not be used, because the values are under or over range or that the aperture or shutter speed preselected by you are unsuitable for that subject.



Acoustic signal (bleeper)

This audible signal indicates, in all functions, — except in timer mode — that the "readiness" time for operation has been exceeded (45 seconds for flash) or, in case of scene brightness measurements for averaging, more than 15 measurements have been put into the meter's memory.

Storing readings in the memory

Values measured and stored will be shown in the display for 2 minutes and retained in the memory until a new measurement is taken. Pushing the rocker switch **M** forward for metering will make the newly measured value be displayed immediately. The value is then stored in the meter memory. In the continuous light mode this will also change all the values in the memory except those which had been preselected or programmed. In the flash mode all values in the memory pertaining to the flash metering which have not been preselected will change.

After the 2 minutes readout time the pre-selected film speed will appear on the display, this is regardless of the position of the function cursor.

Instantaneous readout of values

When pushing the rocker switch forward **M** you will obtain instantaneous readings of the appropriate values in the display which will stay there for 2 minutes after the last operation of the rocker switch. Rock the switch backward (**M**) for computing automatically the average value of up to 15 readings (page 19).

The **MASTERSIX** then switches off automatically, but the measured values remain stored and can be displayed either by using the mode selector switch, the function selector switch, or the value change switch. Pressing **M** eliminates the stored value.

Photographic functions — FOTOGRAFIE mode

Setting the film speed

First ensure that the meter is adjusted for photographic readings (FOTOGRAFIE).

Move the function selector switch until the cursor is above the DIN/ASA function.

To set the desired film speed push the value change switch up or down until you can read the film speed desired.

This selected film speed will be retained in the meter memory until you change it to a new setting as described above or until you change the battery.

with the value change switch



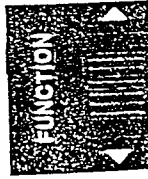
If the cursor is already over the desired function, all one needs to do is to move one of these switches backwards and forwards to re-display the stored reading.

Pressing the measuring switch eliminates the stored reading.



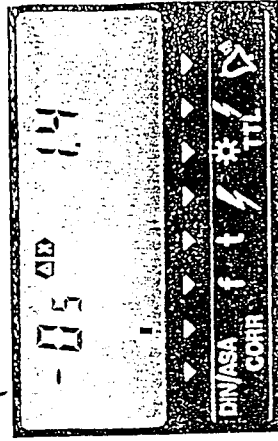
or

together with the function selector switch



Correction expressed in f/stops

Correction value as factor



Programming of correction factors

With the meter set at FOTOGRAFIE move the cursor to CORR.

Set desired correction factor with the value change switch.

Example: -0.5 stops, factor 1.4

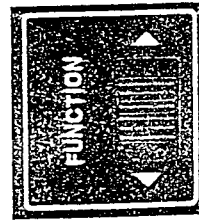
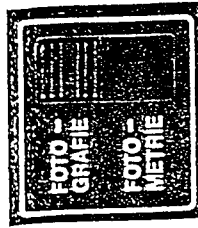
For preprogramming the correction factors necessary when using the attachments having no electrical connections with the meter see part 2 of the instructions "Attachments".

Note: A warning symbol will appear in the display as soon and as long as a factor is in the meter memory.

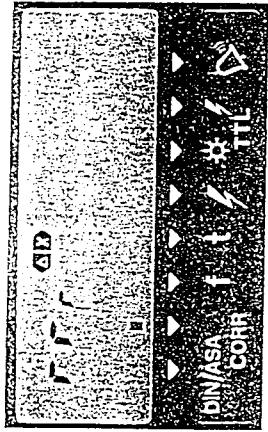
This will serve as a constant reminder that an exposure correction is in the meter's memory and that the reading has been adjusted automatically for that correction factor.



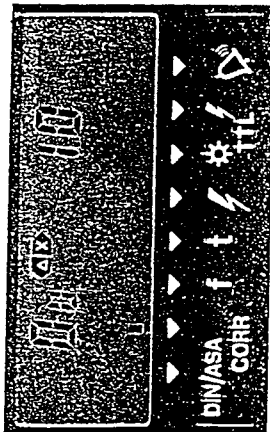
The film speed is also given in ISO (International Organization for Standardization) in accordance with international standards. 100 ASA/21 DIN corresponds to ISO 100/21° for example.



Eliminate the correction value by altering the value change switch or quickly resetting the correction value.
 Set CORR mode.
 Position diffuser to "Light measurement".
 Press first rocker switch M, then M.
 The surface should be evenly illuminated.

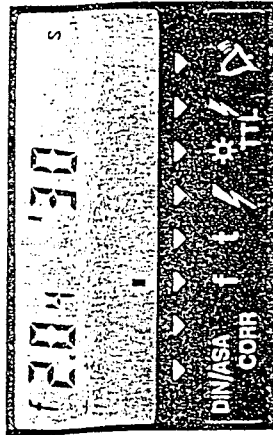


Display in CORR position when correction value has been eliminated.



In modes f and t the shutter speeds always appear in the internationally standardized sequence as with most other cameras, but with intermediate values in increments of 1/10 stops. The high measuring accuracy of the MASTERSIX makes such fine implementation of the display possible. These intermediate values are displayed with the f/number.

Example of a reading: f/number 2.0 + 0.4 stops, close the lens iris by 0.4 of a stop. When the f/number is preselected, this 1/10 stop display does not change until the next measurement is made.



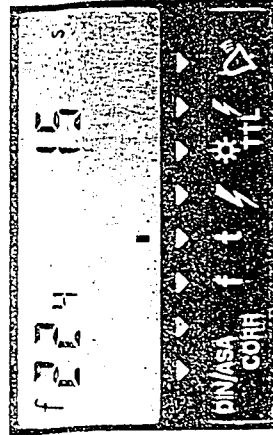
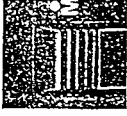
Measuring switch preselected aperture or shutter priority

Set meter to "FOTOGRAFIE" mode. Position diffuser for reflected light or incident light according to the desired measuring method.

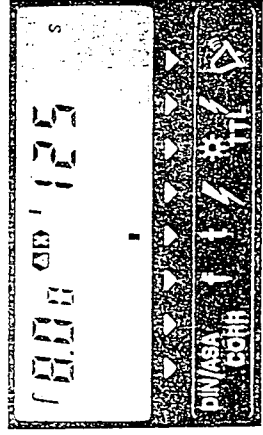
Move indicator with the function selector switch to f or t. Select your desired method of measurement -- either aperture or shutter priority.

Push rocker switch M forward for measuring. Each measuring operation takes one second.

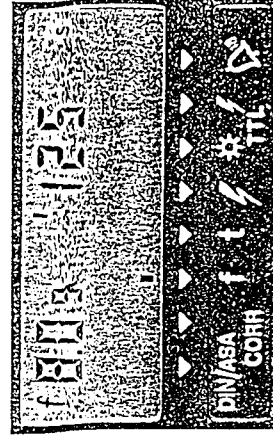
Select other suitable combinations of f/stops and shutter speeds with the value change switch.



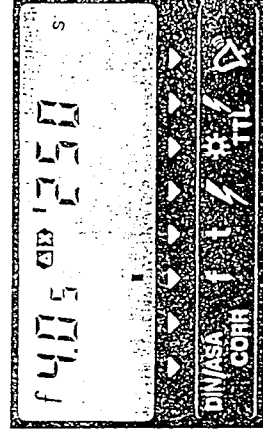
Preselected shutter speed (shutter priority) without preprogrammed correction value



Preselected shutter speed (shutter priority) with preprogrammed correction value



Preselected f/number (aperture priority) without preprogrammed correction value



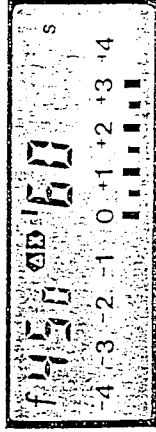
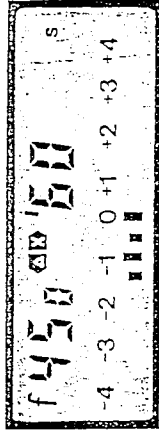
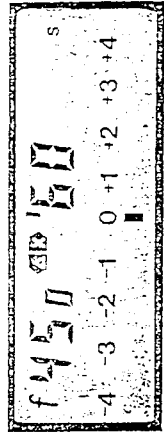
Preselected f/number (aperture priority) with preprogrammed correction value

Measuring the subject brightness range

Aim the meter at the area you wish to measure, push rocker switch M forward and hold it down (continuous reading position). As you meter other areas of the scene the graphic display of the EV contrast scale below the exposure reading will indicate the relative brightness of other scene areas in half stop increments.

Our example shows the difference in brightness of that area as compared to the first reading -1.5 to +3 stops.

If the high-light or shadow reading is beyond the ± 4 EV range of the contrast scale, the entire display will blink to signal that you are beyond the ± 4 EV scale.



Flash measurement

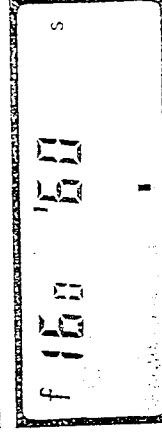
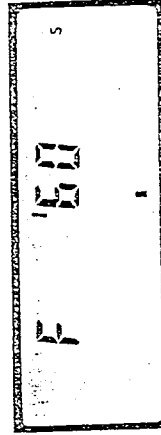
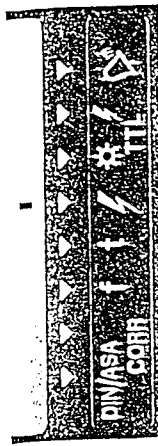
With the MASTERSIX you can take a reading cordlessly or you can attach a connection cord to the MASTERSIX and fire the flash from the meter.

Position diffuser according to the chosen measuring method for incident light or reflected light.

Use the function selector to set the cursor (in the "FOTOGRAFIE" mode) to the "flash" function.

Preselect a shutter speed with the value change switch. The measuring time selected should be equal or longer than the flash duration as specified by the manufacturer of your flash unit.

Prepare the meter for measurement by rocking the measuring switch M forward. F appears in the LCD readout to indicate that the MASTERSIX is ready for you to fire the flash within the next 45 seconds. At the end of those 45 seconds the acoustic signal will sound. Push switch M once more and the meter will again be ready for measuring flash. Within the following 45 seconds the metering operation must be completed.



After the flash is fired the MASTERSIX will display the appropriate aperture reading to 0.1 stop.

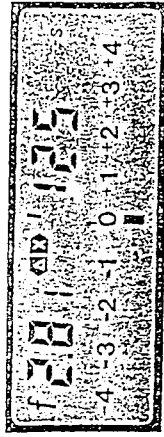
Evenness of illumination

This is the same measuring operation as for contrast measurements. You simply change the lights in the subject or scene until the function indicator will always remain on 0 when you aim the meter at various measuring areas while keeping the measuring switch M depressed.

Automatic averaging of readings in f and t modes

Aim meter at the area you wish to measure. Push the rocker switch M forward. Read the next area and push rocker back M and the meter will read the average value of those two measurements. Now aim meter at yet another area. Again push rocker back. Again the meter will compute and read a running average of up to 15 measurements. Beyond 15 measurements the meter will sound an acoustic signal.

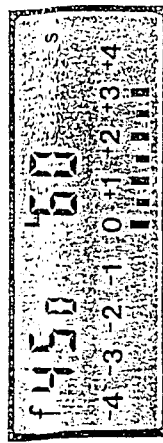
Note: each measuring operation will take 1 second.



Flash/daylight ratio

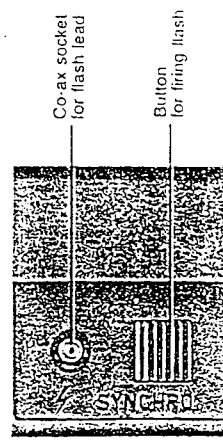
The contrast scale (the scale below the digital exposure information) will show how many stops the flash differs from ambient light.

Example: the flash has increased the ambient light by 3 stops.



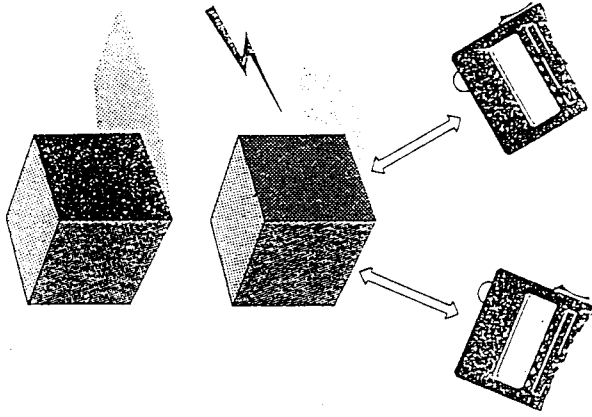
If the difference between ambient light and flash is greater than 4 stops then the contrast scale will no longer appear but only the function indicator.

Firing the flash: if you want to fire the flash from the meter, attach a cord to the connector at the meter and fire the flash by pressing the sync button.



After this first flash reading you can measure the contrast between the area where the flash is being used and those areas which were not reached, i. e. the light distribution as reproduced later in the picture.

Press \bar{M} and the original contrast reading will disappear. The MASTERSIX holds the first measurement in memory and now displays continuously the contrast between the first measurement and all subsequent measurements, with which areas not reached by the flash are measured.



Second and subsequent readings
with \bar{M} depressed
Ambient light only

First Reading
 \bar{M} depressed
Flash and ambient light

Multiple flash computing

Occasionally the light output from a single flash may not be sufficient to enable you to work at the aperture desired. When this happens, simply slide the value change switch until the desired f /number appears in the display (to the left). The MASTERSIX instantly compares the number needed for the desired aperture and indicates that number in the display to the right.

Example: first aperture reading $f/16$,
at $1/60$ second,
desired f /number 32

The indication $F4$ means that based on the light from the first flash you will need 4 flashes to shoot at $f/32$.

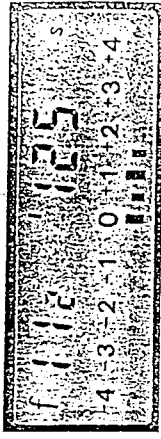
Using this method, the flash energy for multiple flash is therefore required only when taking the picture and not when measuring. Your batteries will last longer and the energy saved will be used for more flash pictures.

Example: the area not brightened by the flash measured in the second reading is 2 stops under the area first measured.



\bar{M} depressed

Example: the area now measured is by $1\frac{1}{2}$ stops brighter than the area where the flash was used.



\bar{M} depressed

The contrast scale will blink on and off if the lighting contrast ratio is greater than + or -4 stops.

Functions TTL $\frac{1}{2}$ f

See part 2 of the instructions "Attachments".

In its TTL setting the MASTERSIX must be coupled with the PROFI-select TTL attachment to supply valid readings. This attachment will read directly the light in front of the ground glass of large format view cameras, - both for ambient light and flash.

Function timer Δ

Your MASTERSIX can time exposures or any other events from one second to 126 minutes. Just move the function switch until the cursor is at the timer function. During the last 5 seconds of the countdown an acoustic signal sounds once per second.

